

## REMARKS

At the outset, Applicants wish to thank the Examiner for the courtesies extended in the telephone interview of December 19, 2007. At that interview was discussed the current Objections and Rejections, and possible amendments to further prosecution.

Claims 1-13 are pending in this application, with claims 12 and 13 withdrawn from consideration.

Included with this Amendment is a Supplementary Information Disclosure Statement. Applicants earnestly request that the enclosed references be considered by the Examiner and made of record herein. A substitute specification is also submitted with this Amendment, along with markings showing all the changes. A clean version of the specification, without markings, is also included. The substitute specification filed herewith does not include new matter.

By this Amendment, claims 5, 12 and 13 have been canceled without prejudice or disclaimer, and claims 1-4 have been amended to address objections made by the Examiner. Claims 1, 2, and 4 have also been amended to incorporate limitations of claim 5. No new matter has been added as a result of this Amendment.

### *Claim Objections*

Claims 1-4 have been amended to address objections cited by the Examiner. With respect to the objection to claim 1 regarding  $R^{1B}$  and  $R^{2B}$ , Applicants have amended the claims to clarify that either  $R^{1B}$  or  $R^{2B}$  may be joined with A to form a ring. With respect to claim 3, Applicants believe that a negative charge on the Cp is not necessary because when the Cp is bonded to the metal, it no longer has a formal charge. Reconsideration and withdrawal of the Objections earnestly is requested.

### *Specification*

A substitute specification has been included with this Amendment to correct informalities, as requested by the Examiner. The substitute specification filed herewith does not include new matter.

## Claim Rejections

### Rejections Under 35 U.S.C. § 103

#### A. Response to rejection of claims 1-11 under 35 U.S.C. 103(a) as being unpatentable over Wang.

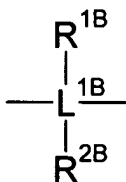
In response to the rejection of claims 1-11 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,723,675 of Wang (“Wang”), Applicants submit that with respect to claims 1-4, and 6-11, a *prima facie* case of obviousness has not been made by the Examiner, and traverse the rejection; and that with respect to claim 5, this claim has been canceled, thereby rendering this rejection moot.

The U.S. Supreme Court in *Graham v. John Deere Co.*, 148 U.S.P.Q. 459 (1966) held that non-obviousness was determined under §103 by (1) determining the scope and content of the prior art; (2) ascertaining the differences between the prior art and the claims at issue; (3) resolving the level of ordinary skill in the art; and, (4) inquiring as to any objective evidence of non-obviousness. Accordingly, for the Examiner to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP §2142.

Wang clearly does not teach or suggest the currently recited claims reciting a monocyclopentadienyl complex comprising the formula  $(\text{Cp})(-\text{Z}-\text{A})_m\text{M}$  (I), where:

Cp is a cyclopentadienyl system,

Z is a bridge between A and Cp of the formula,



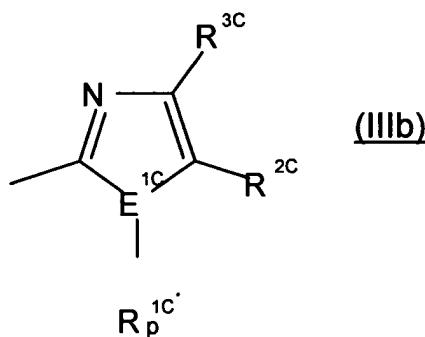
where

$L^{1B}$  are each, independently of one another, carbon or silicon,

$R^{1B}, R^{2B}$  are each, independently of one another hydrogen,  $C_1$ - $C_{20}$ -alkyl,  $C_2$ - $C_{20}$ -alkenyl,  $C_6$ - $C_{20}$ -aryl, alkylaryl having from 1 to 10 carbon atoms in the alkyl part and 6-20 carbon atoms in the aryl part or  $SiR^{3B}_3$ , where the organic radicals  $R^{1B}$  and  $R^{2B}$  may be substituted by halogens, and the two radicals  $R^{1B}$  and  $R^{2B}$  or either  $R^{1B}$  or  $R^{2B}$  and A may be joined to form a five- or six- membered ring,

$R^{3B}$  are each, independently of one another, hydrogen,  $C_1$ - $C_{20}$ -alkyl,  $C_2$ - $C_{20}$ -alkenyl,  $C_6$ - $C_{20}$ -aryl or alkylaryl having from 1 to 10 carbon atoms in the alkyl part and 6-20 carbon atoms in the aryl part and two radicals  $R^{3B}$  may be joined to form a five- or six-membered ring,

A has the formula (IIIb):



where

$E^{1C}$  is nitrogen, phosphorus, sulfur or oxygen,

$R^{1C}$ - $R^{4C}$  are each, independently of one another, hydrogen,  $C_1$ - $C_{20}$ -alkyl,  $C_2$ - $C_{20}$ -alkenyl,  $C_6$ - $C_{20}$ -aryl, alkylaryl having from 1 to 10 carbon atoms in the alkyl part and 6-20 carbon atoms in the aryl part or  $SiR^{5C}_3$ , where the organic radicals  $R^{1C}$ - $R^{4C}$  may be substituted by halogens or nitrogen or further  $C_1$ - $C_{20}$ -alkyl groups,  $C_2$ - $C_{20}$ -alkenyl groups,  $C_6$ - $C_{20}$ -aryl groups, alkylaryl groups having from 1 to 10 carbon

atoms in the alkyl part and 6-20 carbon atoms in the aryl part or  $\text{SiR}^{5\text{C}}_3$  and two vicinal radicals  $\text{R}^{1\text{C}}\text{-R}^{4\text{C}}$  or the two radicals  $\text{R}^{1\text{C}}$  or  $\text{R}^{4\text{C}}$  and Z may be joined to form a five- or six-membered ring,

$\text{R}^{5\text{C}}$  are each, independently of one another, hydrogen,  $\text{C}_1\text{-C}_{20}\text{-alkyl}$ ,  $\text{C}_2\text{-C}_{20}\text{-alkenyl}$ ,  $\text{C}_6\text{-C}_{20}\text{-aryl}$  or alkylaryl having from 1 to 10 carbon atoms in the alkyl part and 6-20 carbon atoms in the aryl part and two radicals  $\text{R}^{5\text{C}}$  may be joined to form a five- or six-membered ring, and

p is 0 when  $\text{E}^{1\text{C}}$  is sulfur or oxygen and 1 when  $\text{E}^{1\text{C}}$  is nitrogen or phosphorus,

M is a metal selected from the group consisting of titanium in the oxidation state 3, vanadium, chromium, molybdenum and tungsten, and

m is 1, 2 or 3.

The Examiner has argued that when E is represented by formulae (i) and (ii), Wang's transition metal complex meets the limitations of the instant claims, however these complexes are clearly different than the monocyclopentadienyl complexes recited in the current claims. Wang's formula (i) does not contain nitrogen and one of oxygen, sulfur, phosphorus, or a second nitrogen, and formula (ii) does not contain nitrogen at all. In addition, all of Wang's examples of catalyst precursors include pyridyl or quinolinyl moieties, not five-membered-rings, so that there would be no suggestion to modify the teachings of Wang to arrive at the subject matter of the present claims. Therefore, a *prima facie* case of obviousness has not been made out by the Examiner.

However, even if a *prima facie* case of obviousness had been made out by the Examiner, Applicants specification sets forth unexpected results to overcome such a case. As shown in examples 1 and 2 and the comparative example, replacement of the six-ring donor, (like pyridine --see Wang's compound V), with an imidazol, results in a catalyst that produces olefin copolymers with higher molecular weights.

Reconsideration and withdrawal of the rejection respectfully is requested.

Applicants respectfully request that a timely Notice of Allowance be issued in this case. Should the Examiner have questions or comments regarding this application or this Amendment, Applicant's attorney would welcome the opportunity to discuss the case with the Examiner.

The Commissioner is hereby authorized to charge U.S. PTO Deposit Account 08-2336 in the amount of any fee required for consideration of this Amendment.


This is intended to be a complete response to the Office Action mailed July 3, 2007.

Respectfully submitted,



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I hereby certify that this correspondence is being deposited with sufficient postage thereon with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on December 21, 2007.

  
December 21 2007

Date of Signature

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